

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A support element for an integrated module for blood treatment, comprising:

[[-]] a base body;

[[-]] at least a first and ~~at least a second connector~~ connectors associated to the base body and distanced one from another, ~~destined~~ configured to receive and engage with corresponding counter-connectors of a blood treatment device ~~which is mountable~~ mounted on the support element, said at least first and second connectors being constrained to the base body, wherein said at least first and second connectors and the base body are constructed as a single piece.

2-3. (Canceled)

4. (Original) The support element of claim 1, comprising at least a third connector, distanced from said first connector and from said second connector and directly constrained to the base body, said first, second and third connectors defining pairs of connectors having differentiated interaxes there-between for engaging to corresponding pairs of counter-connectors associated to various blood treatment devices which are mountable on the support element.

5. (Original) The support element of claim 4, wherein the third connector is made in a single piece with the base body.

6. (Currently Amended) The support element of claim 1, wherein each of said first and second connectors affords a fluid passage having a first end portion,

~~destined~~ configured to be placed in fluid communication with a corresponding channel in a respective counter-connector on the blood treatment device, and a second end portion, ~~destined~~ configured to be placed in fluid communication with a fluid distribution circuitry associable to the base body.

7. (Original) The support element of claim 6, wherein each of the said connectors comprises:

a tubular channel defining said first end portion,
a sealing collar set in a radially external position with respect to the tubular channel, and
a connecting wall developing continuously between an external lateral surface of said tubular channel and an internal lateral surface of said sealing collar to define an annular seating for engagement of each counter-connector.

8. (Currently Amended) The support element of claim 7, wherein the tubular channel defining said first end portion is coaxially arranged with respect to the sealing collar, said annular seating exhibiting a bottom portion ~~which is~~ delimited by said connecting wall.

9. (Currently Amended) The support element of claim 8, wherein said annular seating exhibits a radial dimension which increases progressively in a direction moving away from said bottom ~~wall~~ portion.

10. (Currently Amended) The support element of claim 9, wherein said annular seating exhibits: a first zone, adjacent to said bottom ~~wall~~ portion and having a constant radial dimension; a second zone, distal of said bottom ~~wall~~ portion and having a constant radial dimension which is greater than the radial dimension of the first zone;

and a third zone, which is a transition zone between the first zone and the second zone and has a progressively increasing dimension in a distancing direction from said bottom wall portion.

11. (Currently Amended) The support element of claim 7, wherein the tubular channel and the sealing collar of each connector ~~are~~ emerge from the base body parallel to one another ~~as they emerge from the base body~~, defining a single coupling direction for coupling with corresponding counter-connectors of a blood treatment device.

12. (Currently Amended) The support element of claim 4, comprising a fourth connector, distanced from said first, second, and third connectors, ~~which~~ said fourth connector is being made in as a single piece with the base body and ~~defines~~ defining, with at least one of said first, second, and third connectors, a further pair of connectors which can be engaged to a corresponding pair of counter-connectors associated ~~to~~ with a blood treatment device which is mountable on the support element.

13. (Original) The support element of claim 12, wherein the fourth connector comprises:

- a central cylindrical positioning body;
- a sealing collar, set in a radially external position to the cylindrical positioning body; and
- a connecting wall, developing continuously between an external lateral surface of said cylindrical positioning body and an internal lateral surface of said cylindrical positioning body and an internal lateral surface of said sealing collar;

said fourth connector defining a connecting and sealing site for a counter-connector of the blood treatment device.

14. (Currently Amended) The support element of claim 2, wherein said first and second connectors and said base body are made of a rigid material in order to offer a mechanical support for the blood treatment device.

15. (Original) The support element of claim 4, wherein said connectors are aligned one to another.

16. (Currently Amended) The support element of claim 2 1, wherein said first and second connectors are arranged on a side of the base body.

17. (Currently Amended) The support element of claim 1, wherein said base body comprises a frontal wall and a perimeter wall, which perimeter wall is connected by a side thereof to the frontal wall and defines a works area within which at least a portion of a fluid distribution circuitry ~~destined~~ configured to be associated to the support element can be housed.

18. (Currently Amended) The support element of claim 17, comprising an auxiliary structure extending laterally and externally with respect to said works ~~housing~~ area from a base zone of the perimeter wall, said first and second connectors emerging from said auxiliary structure.

19. (Currently Amended) The support element of claim 4, wherein said first and second connectors are not aligned one to another.

20. (Currently Amended) The support element of claim 1, wherein the base body ~~(6)~~ comprises a frontal wall, from which said connectors directly project, and a

cover associated to a perimeter wall at an opposite edge thereof with respect to the frontal wall.

21. (Withdrawn) An integrated module for fluid treatment, comprising:
a support element as in any one of the preceding claims;
at least one blood treatment device engaged on the support element;
a fluid distribution circuitry associated to the support element and cooperating with the blood treatment device.

22. (Withdrawn) The integrated module of claim 21, wherein said blood treatment device is fixed to the base body by at least a pair of said connectors.

23. (Withdrawn) The integrated module of claim 22, wherein said pair of connectors is interpositioned between the counter-connectors and a portion of the fluid distribution circuitry.

24. (Withdrawn) The integrated module of claim 21 comprising the support element of claim 6, wherein said blood treatment device comprises:

a containment body;
at least one semi-permeable membrane operating internally of the containment body and defining a first chamber and a second chamber;
a first counter-connector and a second counter-connector, associated to the containment body and fixed to respective connectors associated to the base body, at least one of the first counter-connector and the second counter-connector being placed in fluid communication with the second chamber of the blood treatment device and with respective first end portions of said connectors;
at least one inlet port to the first chamber; and

at least one outlet port from the first chamber.

25. (Withdrawn) The integrated module of claim 24, wherein the fluid distribution circuitry comprises at least one discharge line of a discharge fluid, placed in communication with the second end portion of one of said connectors.

26. (Withdrawn) The integrated module of claim 25, wherein the fluid distribution circuitry comprises at least one fresh dialysis liquid supply line, placed in communication with the second end portion of another of the connectors.

27. (Withdrawn) The integrated module of claim 21, wherein the fluid distribution circuitry comprises at least one blood circuit line having a blood withdrawal branch, placed in communication with the inlet port of the first chamber, and at least one blood return branch, placed in communication with the outlet port of the first chamber.

28. (Withdrawn) The module of claim 25, wherein at least one of said lines is constrained to the support element, defining at least one tract of tubing which is U-shaped in relation to the support element and which is destined during operation to cooperate with a peristaltic pump.

29. (Withdrawn) The integrated module of claim 28, wherein the at least one U-shaped tract of tubing extends internally or externally with respect to the perimeter wall of the support element.

30. (Withdrawn) An assembly process for an integrated module for fluid treatment comprising stages of:

predisposing a support element as in any one of the preceding claims 1 to 20;

fixing a blood treatment device to the support element;

associating a fluid distribution circuitry to the support element and to the blood treatment device.

31. (Withdrawn) The process of claim 30, wherein the fixing stage comprises substages as follows:

selecting of a pair of connectors to which the counter-connectors of the blood treatment device are to be fixed;

depositing a prefixed quantity of glue in the annular seatings of each connectors which has been selected;

at least partially inserting each counter-connector into a respective annular seating in order to obtain a mechanical lock and a liquid-proof seal.

32. (Withdrawn) The process of claim 31, wherein during said insertion stage, at least one portion of the prefixed quantity of glue is arranged in said second zone of the respective annular seating.

33. (Withdrawn) The process of claim 32, wherein at an end of said insertion stage, a volume of said prefixed quantity of glue added to a volume of the portion of counter-connector housed in the annular seating is less than a total volume of the annular seating.

34. (Withdrawn) The process of claim 30, wherein the stage of associating a fluid distribution circuitry to the support element and to the blood treatment device comprises sub-stages of:

liquid-proof fixing of an end portion of a discharge line of a discharge fluid with the second end portion of one of said connectors;

sealedly fixing an end portion of a fresh dialysis liquid supply line to the second end portion of another of said connectors;

sealedly fixing an end portion of blood withdrawal branch to the inlet port of the first chamber, and an end portion of a blood return branch to the outlet port of the first chamber.

35. (Currently Amended) A support element for an integrated module for blood treatment, comprising:

a base body made of a rigid material;

at least a first and a second connectors realized in a single piece with the base body and distanced one from another, said connectors being ~~destined~~ configured to engagingly receive corresponding counter-connectors of a blood treatment device ~~which is mountable~~ mounted on the support element;

each of said first and second connectors defining a fluid passage having a first end portion, conformed as a tubular channel and ~~destined~~ configured to be placed in fluid communication with a corresponding channel in the respective counter-connector of the blood treatment device, and a second end portion, ~~destined~~ configured to be placed in fluid communication with a fluid distribution circuitry associable to the base body;

a sealing collar placed in a radially external position to the tubular ~~channel~~ channels of each of said first and second connectors, the tubular channel and the sealing collar of each of said first and second connectors emerging parallel to one another from the base body, to define a single coupling direction with corresponding counter-connectors of the blood treatment device; and

a connecting wall developing continuously between an external lateral surface of said tubular channel and an internal lateral surface of said sealing collar to define an annular seating for engagement of each counter-connector.

36. (Withdrawn) An integrated module for fluid treatment, comprising:
the support element of claim 35;

at least one blood treatment device fixed to the support element by at least a pair of said connectors; said blood treatment device comprising: a body of containment; at least one semi-permeable membrane operating internally of the body of containment and defining a first chamber and a second chamber; a first counter-connector and a second counter-connector, associated to the body of containment and fixed to respective connectors associated to the base body, the first counter-connector and the second counter-connector being placed in fluid communication with the second chamber of the blood treatment device and with respective first end portions of the connectors; at least one inlet port to the first chamber; and at least one outlet port from the first chamber;

a fluid distribution circuitry associated to the support element and cooperating with the blood treatment device;

said fluid distribution circuitry comprising at least one discharge line of a discharge fluid, placed in communication with the second end portion of one of said connectors, at least one blood line having a blood withdrawal branch, placed in communication with the inlet port of the first chamber, and at least one blood return branch, placed in communication with the outlet port of the first chamber.

37. (Withdrawn) A manufacturing process of an integrated module for fluid treatment as in claim 36, comprising stages of:

- predisposing the support element;
- predisposing the blood treatment device;
- selecting a pair of connectors to which counter-connectors of the blood treatment device are to be fixed;
- depositing a prefixed quantity of glue in the annular seatings of each selected connector;
- at least partially inserting each counter-connector into a respective annular seating in order to obtain a mechanical lock and a liquid-proof seal; at an end of said insertion stage, a volume of said prefixed quantity of glue added to a volume of the portion of counter-connector housed in the annular seating being less than a total volume of the annular seating;
- associating the fluid distribution circuitry to the support element and to the blood treatment device.

38. (New) A support element for an integrated module for blood treatment, comprising:

- a base body;
- at least first and second connectors associated to the base body and distanced one from another, said at least first and second connectors configured to receive and engage with corresponding counter-connectors of a blood treatment device mounted on the support element;

each of said first and second connectors further comprising a fluid passage having a first end portion configured to be placed in fluid communication with a corresponding channel in a respective counter-connector on the blood treatment device, and a second end portion configured to be placed in fluid communication with a fluid distribution circuitry associable to the base body, a tubular channel defining said first end portion, a sealing collar set in a radially external position with respect to the tubular channel, and a connecting wall developing continuously between an external lateral surface of said tubular channel and an internal lateral surface of said sealing collar to define an annular seating for engagement of each counter-connector; wherein

said tubular channel defining said first end portion being coaxially arranged with respect to the sealing collar, and

said annular seating exhibiting,

a bottom portion delimited by said connecting wall;

a radial dimension which increases progressively in a direction moving away from said bottom portion;

a first zone, adjacent to said bottom portion and having a constant radial dimension;

a second zone, distal to said bottom portion and having a constant radial dimension which is greater than the radial dimension of the first zone; and

a third zone, which is a transition zone between the first zone and the second zone and has a progressively increasing dimension in a distancing direction from said bottom portion.